AMERICAN
GAS JOURNAL
Established 1859 Pioneer of the Gas Industry

VOL. 123. No. 20.
WHOLE NO. 3546.

NEW YORK, SATURDAY, OCT. 17, 1925

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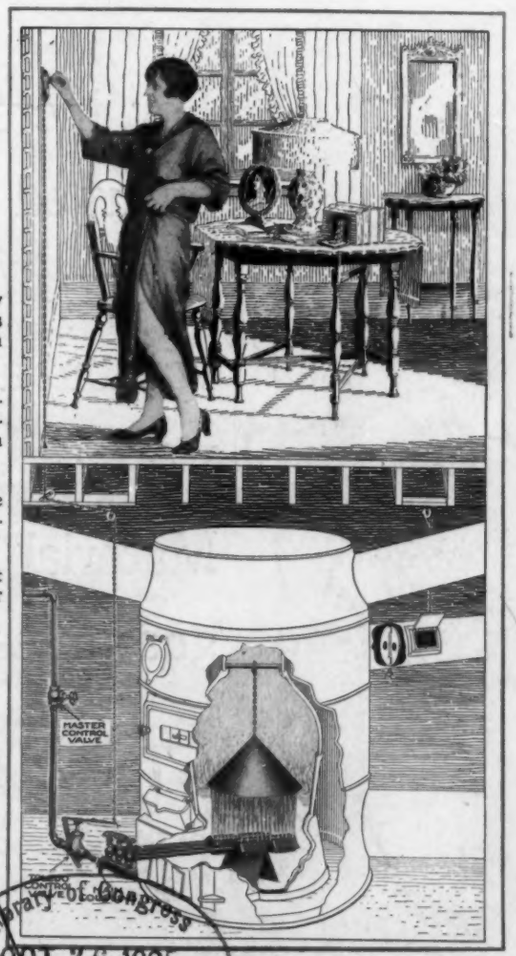

At the right is illustrated the Toledo Automatic Gas Burner and the Control which operates the Toledo gas valve. By-pass in this valve makes it impossible for gas to be completely shut off from control device. With flame turned down to ⅛" high, it will not go out even during low pressure periods. Automatically making its own mixture to a perfect combustion, it will not pop back. Burners being furnished in unit outfits with multiple valve control makes possible the use of as many units as the weather requires without heat waste.

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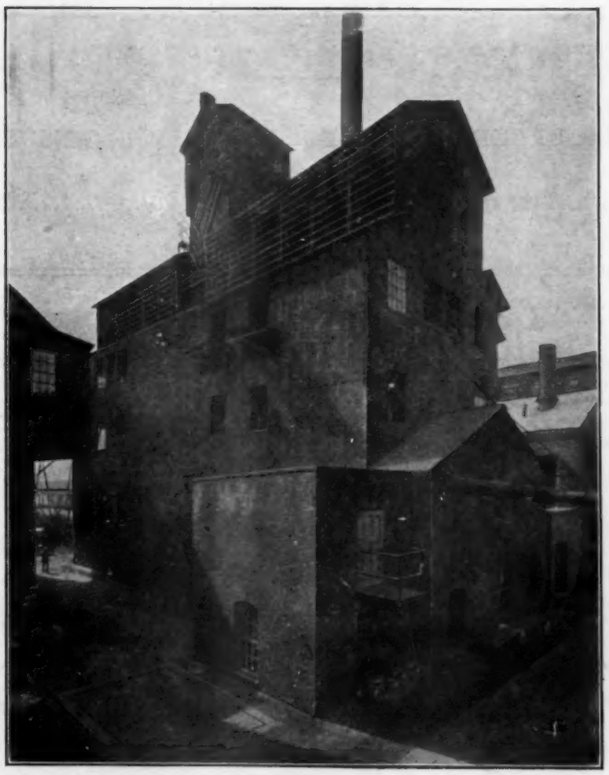

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SIXTY-SEVENTH YEAR

Published Weekly by American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.

S. G. KRAKE, Pres. & Treas. C. S. MYERS, Vice-Pres. A. M. GLEASON, Sec'y.

STANTON G. KRAKE, Managing Editor ISMAR GINSBERG, Editor

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Subscription $3.00 per year, including postage, in the United States, Mexico, Cuba, Porto Rico, Hawaii or the Philippines; in Canada, $4.00; foreign, $5.00—Single Copies, 10 cents.

AMERICAN GAS JOURNAL, Oct. 17, 1925. Vol. 123, No. 20.
Published weekly by American Gas Light Journal, Inc., New York, N. Y.
Entered as second-class matter Jan. 9, 1917, at the post-office at New York, N. Y., under the Act of March 3, 1879.

AMERICAN
GAS JOURNAL

Vol. 123. No. 20 NEW YORK, OCT. 17, 1925 Whole No. 3546

High Pressure Distribution

Its origin and importance

R. S. Fuller

Engineer of Distribution, Pacific Coast Gas & Electric Co.

WHILE by far the majority of consumers of gas in the United States, and likewise the world, are served by what is termed low pressure distribution systems, the number served by high pressure systems becomes greater each year. The growth in high pressure systems is no doubt considerably greater, at least in this country, than is the growth in the low pressure systems. In some of the newer companies it is found that low pressure is in the minority, some companies having no low pressure and others reducing their amount of this method of distribution as time goes on. On the other hand, there are older companies, started during the time when the low pressure method was the only one employed, who have never ventured to depart from the older method. Some of them are even fearful of the consequences which they feel will surely result from the use of the newer method. This fear is, however, being rapidly allayed so that at the present time the choice between the two systems usually rests upon the relative costs.

Its Origin

The origin of high pressure gas distribution is not known to the writer but should its history be determined it would probably show that the old adage, "necessity is the mother of invention," was responsible for the first effort at high pressure gas distribution. Many instances of high pressure distribution systems had their inception in the inadequacy of a more or less old low pressure system and the shortage of funds necessary for capital investment were a larger low pressure system to be laid. Under these circumstances the problem has always been solved by the conversion of the old system, or a portion of it, to high pressure and it is more than likely that the earliest high pressure system was brought about in this way.

Like all methods, in the gas business or outside of it, high pressure gas distribution has its field, and it is within that field that the best results will be obtained.

Where It Applies

Obviously, to any one giving the matter even a cursory study, this field for high pressure distribution, at least for manufactured gas companies, is not to be found in the closely built up sections where the length of the main required per consumer is at a minimum. Rather it is the sections where the length of main required per consumer approaches the maximum allowed. Analysis of the costs of gas distribution will show that one of the heaviest charges against the system is that covering the return on the capital invested in mains, this is a charge which cannot be controlled once the investment has been made. As the sections where length of main per consumer is at its greatest are to be found at comparatively great distances from the gas works, the mains to render the same service must be even larger than those near to the point of supply.

Comparison of Low and High Pressure Distribution

Under these circumstances a method which will allow a minimum of investment in mains without unduly raising the charges under other items will prove the most economical. It will be found that as the consumers per mile and the sales per consumers per year increase, the saving to be effected by the use of high pressure distribution as compared to that of low pressure diminishes. High pressure distribution will be the more economical method when there are no more than 130 consumers per mile of main with sales per consumer of 50 M. C. F. per year when the distribution system is in the immediate vicinity of the gas works. With a greater number of consumers per mile of main or a greater sales per consumer the costs for low pres-

sure distribution will be less than for high pressure. As the distance from the gas works to the distribution system is increased the number of consumers per mile of main must be increased over the figure of 130 before the low pressure system will show the lower costs.

On the Pacific Coast

There are companies on the Pacific Coast which could not have lived had it not been for the low distribution costs resulting from high pressure distribution during the years when the number of consumers per mile of main was below that generally considered the minimum possible.

Aside from the question of costs there is a great difference between the two methods of gas distribution and they are nearly if not all in favor of the high pressure system. High pressure distribution is above all flexible. The very nature of low pressure distribution is such as to set definite narrow limits between which it is necessary to confine the pressure in order to give satisfactory service, and the lower the low pressure standard the narrower the limits. High pressure distribution, embracing as it does all pressures high enough to require the use of individual or service regulators to insure proper pressure, permits of wide variation throughout the system without in any way influencing the pressure at the consumer's meter which is the only point where pressures must be closely watched.

Economy in Use of Equipment

This results in the greatest economy of the use of all equipment and makes it possible to keep at the minimum those charges which are susceptible of control. Consumers' complaints resulting from extremely low or varying pressure are almost nil on a high pressure system; this condition extends itself to former low pressure districts which have been converted to high pressure and to districts formerly served by a local plant but now served from a distant plant through a high pressure transmission line. Meters from high pressure districts have a longer life of accurate registration and require less extensive repairs when finally brought to the shop for attention.

Unaccounted for Gas

Unaccounted for gas, the bugaboo in the minds of most engineers not yet convinced of the advantages of high pressure, need not be seriously greater than on low pressure systems provided due care is taken in the construction of lines to be used for high pressure. As a mater of fact, if proper materials and methods are adhered to in the laying of gas mains, even for low pressure, no fear of serious loss of gas need be felt should the main later be used for the distribution of gas at a medium high pressure. Systems which will leak under the pressures used on most high pressure systems will probably leak, though to a less degree on low pressure systems. A comparison of the unaccounted for gas per mile of main per unit of time, using for the comparison figures from companies in the eastern part of the United States having no high pressure distribution and companies on the Pacific Coast having systems made up for the most part of high pressure, in most cases shows but little difference as between the two methods. Comparisons between the districts of companies having both methods of distribution, in some instances show the unaccounted for gas to be less in high pressure than in low pressure districts. These results can be obtained only where diligent care is taken to prevent loss of gas wherever possible.

Question of Thermal Content of Gas

Many consider that the loss of thermal content in gas compressed for high pressure distribution is so great as to preclude the use of the high pressure method. Such high loss does not materialize if the pressures do not exceed the economical limit for single stage compression, which is 55 or 60 pounds per square inch. This upper limit for single stage compression will be found ample for most cases of distribution where the gas is manufactured. Natural gas companies often need and use much higher pressures but in their case no loss in thermal content results from the higher compression of their gas.

Conversion of Low Pressure Systems

Conversion of low pressure systems, which through growth in demand are no longer able to furnish adequate pressure, will be a happy solution in most cases provided the condition of the distribution system is such as to allow the necessary increase in pressure. Many times the use of a pressure as low as five pounds per square inch will obviate the laying of larger mains, and by the use of district governors or regulators pressures may be kept at this figure. There will be found mains which could not be subjected to pressures usually found on high pressure systems which may be kept in service for years beyond their original expected life by the use of such pressure. Conversion of distribution systems from low to high pressure or some modification thereof, can be made for from five to ten dollars per consumer. This cost will be affected by the number of valves necessary to isolate the part to be converted from the balance of the system.

The Material of the Mains

The usual material of which mains to be used for high pressure is composed has always been wrought iron or steel; at the present time there is but steel used in high pressure gas distribution, though some engineers believe sufficiently in the superiority of wrought iron to pay the higher price asked for this material. Whichever of these is used some adequate form of protection should be provided in order that the life of the main be materially increased beyond

(Continued on page 477)

Convention Echoes

Final reports and interviews

GAS AND ELECTRICITY EACH HAVE THEIR FIELDS

Gas Should Supply Heat for All Purposes

In a talk with a reporter of the American Gas Journal, a gas man prominent in the industrial field had some very interesting remarks to make about the relationship of gas and electricity in the domestic and industrial field. He said:

"A short time ago the manager of a large electric company in Japan asked the writer of this article his opinion regarding the future relationship between the electric and gas utilities, with particular reference to the division of competitive business. Many of us have undoubtedly analyzed competition to some extent and have ideas as to some of its phases, but a definite prospectus of the entire field is probably not clearly before us. There is no intention whatever in this article of attempting to pose as a prophet by predicting the future uses of gas and electricity, but some thoughts on the subject may be interesting and productive of further discussion.

Household Uses

"It is generally admitted that gas lighting is cheaper than electric lighting, that gas lighting is more dependable and that the quality of gas lighting is superior. But still we find electricity replacing gas for lighting. People seem to be willing to pay for the convenience of the electric light and for the luxury of decorative lighting effects. It is probably safe to predict that electricity will come into even more general use for this purpose, with gas used for emergency lighting and in some commercial establishments.

"Electricity for cooking has made serious inroads in some parts of the country. Generally speaking, electricity for cooking is more costly than gas. The alleged advantages in lessening food losses in the oven have been proved to be only fancied. Thermostatic and time control are also possible and obtainable with gas. The heat retaining gas oven is available to the public. There seems to be left only the "idea of electric cooking"—the ability to cook and bake by the turn of a switch—as the single sales argument for electric cooking. On this one basis and with the many other advantages which gas has, it is difficult to imagine that gas can be largely supplanted for cooking in the American home and that any other source of energy can become the universal fuel for this purpose.

Water Heating

"Gas appears to be the one fuel best adapted to water heating. Coal, electricity and oil may have some local applications, due to particular conditions, but gas should ultimately heat over 90 per cent of the hot water used in homes, offices and industries.

"The development of a certain good gas refrigerator which has been going on for 12 years or more and the recent advent of another promising gas-fired refrigerator give hope that gas will eventually replace both the ice man and the electrically driven refrigerator. A more dependable machine and a lower refrigerating cost are offered by these gas-fired refrigerators.

"The dream of a time when all heating of buildings will be done with gas may never come true, but the fact that in the heating field lies a large potential market for gas cannot be denied. It has been shown in recent years that many people are willing to pay for a clean fuel which can be automatically controlled even though it may cost more. The business of heating homes with manufactured gas is only in its infancy and a large growth is before it. Whether 3 per cent or 10 per cent or 90 per cent of the homes will ultimately be heated from the city's fuel bin (the gas company holder), the market is a large one and of itself presages a remarkable growth for the gas industry.

Commercial and Industrial Uses

"Some years ago many gas companies started a drive to change stationary gasoline and kerosene engines to gas. A large degree of success was met. Lower costs and a more reliable supply of fuel at constant prices were the principal advantages. Since that time many of these gas engines have been replaced by electric motors. The decrease in mechanical troubles, the ease of starting and stopping and the application of motors to individual machines have been largely responsible for the increasing use of electricity. The large majority of power applications will undoubtedly be electric, with gas used where its particular advantages make it the more desirable source of energy.

"In large volume cooking, as in household cooking, electricity has no place whatever when gas is available at ordinary rates. The first cost and the operating and maintenance cost of electric ranges are higher, with no compensating advantages. Gas must continue to do the nation's large volume cooking.

Baking

"We have seen electric bake ovens installed in the windows of stores of neighborhood bakeries. Usually most of the goods are baked in some other part of the bakery in gas-fired ovens. The intention, of course, is to lead the public to believe that a "clean" heat is used in the preparation of all the baked goods. This about covers the entire field of electricity in baking which the baker can himself justify. We contend that gas is the only fuel which should be used and which will ultimately be used for baking where available at ordinary rates.

"In the case of japanning, enameling and other coatings other than electrolytic deposits, fuels other than gas have been used, but with the development of better gas appliances it has been possible to prove gas to be the best fuel. The automatic control of atmospheres and of temperatures is accurate with gas and these fields belong to it.

Melting of Brass

"For the melting of brass and other metals, gas has met determined competition. The need for better gas furnaces has been demonstrated by these competitors. With its fundamental advantages and the research talent available in the industry, it is a certainty that gas will regain that part of the metal melting business which it has lost and will some day be the almost universal source of heat energy for this purpose.

"The heat treatment of metals and many other industrial operations are best performed in gas-fired appliances. In fact, wherever heat is used, YOU CAN DO IT BETTER WITH GAS. It is not so easy to convince every shop manager of the superiority of gas and the development of better industrial gas engineers must be undertaken by the industry along with the development of improved devices, ovens, furnaces and utilization methods.

Economics of Fuels

"There are only two primary sources of heat energy, coal and petroleum, in addition to the sun, winds, waves and waterfalls. Coal and petroleum are the only ones which are worthy of consideration as the natural fuels upon which heat in our homes and industries are dependent.

"Oil is now of considerable importance as an industrial fuel and is used for house-heating as well as for cooking and water heating where better fuels are not available. But, in looking to the future, we must consider it only as a temporary source of heat as our supplies of petroleum will some day be entirely exhausted.

"Natural gas could also be considered, but it, like oil, is a fuel which need be considered only for a comparatively few years more.

Coal, Electricity and Gas

"This leaves us with but one basic source of heat energy to which we may look in the future for our general needs. Coal may be burned as a raw fuel, either solid or pulverized, it may be used in the generation of electricity or it may be utilized in the manufacture of gas. Thus we come to three means available to the householder for the generation of heat: raw coal, electricity and gas.

"Volumes have been written about the waste of our natural resources through the burning of raw coal. It seems to be unnecessary to review them at this time and sufficiently merely to say that it seems to be a certainty that future generations will not tolerate the wanton destruction of the valuable by-products which can be obtained from coal and which are lost when coal is burned. Coal, itself, will not be a fuel of the future.

"Conservation of natural resources will play an important part in our future considerations of gas and electricity. Since the burning of raw coal will not be tolerated, electricity cannot be produced by means of steam generated in coal burning boilers. It will be necessary first to gasify the coal and recover the by-products.

Gas the Universal Fuel

"The complete gasification of a ton of coal will yield fifteen million B.t.u., and this amount of heat energy can be delivered to the point of use for each ton of coal consumed. If, on the other hand, this same amount of coal were burned under boilers to generate electricity, less than three and one-half million B.t.u. would be available in the form of electricity for each ton of coal consumed. Even less B.t.u. would be available if the coal were fisrt transformed into coke and gas for use under boilers. Thus, coal transformed into electricity can deliver only 23 per cent or less of the amount of potential heat which coal transformed into gas can deliver to the user. This is a tremendous economic advantage for gas.

"The amount of capital investment needed per B.t.u. deliverable is many times greater for electricity than for gas. In fact, the summation of all considerations leads us to believe that gas serves best the interests of the nation in the conservation of all of its resources.

"In a community large enough to support a gas company or so situated that it can secure gas from a transportation system supplying several communities, the gas utility should become the supplier of all heat needed in homes, stores, shops and industries. This will be a large responsibility, requiring research, talent and faithfulness, and with these essentials assured promises a growth and a future for the industry which will prove even the most optimistic to be conservatives.

NEW USES FOR GAS

That "we must find new methods for utilizing our product, if we wish continually and proportionately to increase our sales" is the message that J. E. Davies, general manager, Peoples Gas Light & Coke Company, Chicago, Ill., has to give the gas industry. As a condition of saturation is approached in the old uses of gas in the domestic field, increased sales along these lines become increasingly difficult. The only way that remains is, therefore, to find new uses for gas in the home. This has been done to a certain degree and Mr. Davies, whose statement follows, describes a number of important new domestic applications of gas.

"As the number of automobiles sold increases, the marginal utility of the automobile as a piece of merchandise decreases. For a while, after the initial saturation, if we wish to call it such, meaning not a literal saturation, but a possible merchandising saturation, increased purchasing activity by the public is kept up through the efforts of manufacturers to change styles, details of design, and other minor departures from standard merchandising methods. You and I, however, can see, in the remote future, that even these changes will fail to stimulate sufficient interest to cause correspondingly increased sales. It is necessary at this point to evolve some radical departure, something that will arrest and hold the public's attention and interest to that point where purchases are ultimately made. For example, I believe that the time is not far off when the automobile will cease to be a vehicle center of general interest from the standpoint of proportionately increasing merchandising, and will be replaced largely by the aeroplane.

C. E. Davies

"Did the radio affect other merchandise sales for entertainment purposes? I'll say it did.

"Decline of the Gas Industry"

"It has not been so very long ago that the public shook their heads over the 'decline of the gas industry.' The loss of the lighting load would, of course, completely wipe out any hope for the future. Yet, you and I know that this prediction was only the product of idle speculation, the ravings of vacuous wise-acres. Through the timely efforts of the far-seeing captains of our industry, gas was made to function as a heat-producing medium, rather than solely for illumination. In other words, this change produced such a radical departure in the use of manufactured gas that the public was forced to take notice. The results were galvanic; gas for cooking increased tremendously, the industrial use of our product is increasing markedly, and gas for house-heating is on everybody's tongue. The gas business was not ruined.

"And now we are at an eve of another departure, one absolutely antithetical with the common uses of our product. We are planning to refrigerate with gas. Think of it, actually make ice by burning manufactured gas. I have read with interest the initial report of the 'Refrigeration with Gas' committee. This use of our product must be taken seriously, as it is of tremendous importance.

"THE SALES STIMULATION COMMITTEE HAVE COMMITTED THEMSELVES TO A 50 PER CENT INCREASE IN GAS SALES OVER A THREE-YEAR PERIOD. I BELIEVE THERE IS ONLY ONE WAY TO DO IT, AND THAT IS TO INITIATE THE USE OF GAS THROUGH THE AGENCY OF NEW APPLIANCES, THEREBY PRODUCING NEW USES FOR GAS.

New Appliances

"I wish to call your attention to several appliances which have been brought out during the past year, which illustrate my point. There are thousands of homes in this country which are still being heated by the base burner set in the sitting room, or the parlor, and which is fed several times during the day with coal. The cost of installing a central heating plant is prohibitive and yet the occupants are searching for something which will give them the comfort of the central heating plant, and which will relieve them of the routine duties of feeding with coal and removing the ashes. Very recently, a manufacturer brought to your attention an appliance called GASWAY which is nothing more than a beautified base burner fired with gas. Certainly, this is an innovation. I have had the pleasure of seeing this tested in our laboratory in Chicago, and can personally say that as far as efficiency is concerned, it is as effective an appliance as you could ordinarily use under the varying conditions where it would be installed. Its design is unique, inasmuch as practically all of the useful heat

is distributed by convection currents of hot air issuing through the grill work at the top of the heater. In appearance, it matches the furniture of the occupants very nicely and will not embarrass the owner when company arrives. Here is one new way to increase gas business as well as merchandising sales.

"Again, very recently, another manufacturer brought to my attention an appliance which I know will be welcome by all gas men. Along with the base burner mentioned above, one generally finds a combination gas and coal range also, as a part of the heating equipment. This range not only furnished sufficient cooking top area to provide the family with their meals, but also served as a medium whereby the kitchen was heated. The results of this manufacturer's efforts terminated in the design of an appliance which is essentially an elaborated unified range, where the ordinary grates for coal have been redesigned into a combustion chamber, wherein gas is used efficiently. The combustion chamber is inclosed by two lids making a solid cooking top, so desirable for certain cooking operations, especially in the winter time, and the flue gases then are baffled at the back of the range, and approximately 25 per cent of the heat in the flue gases is salvaged and issues from the grill work at the top of the range, in the form of warm air at rather high velocity. Here is another example for a new use for gas, which will increase both merchandise sales and further diversify and extend the gas load.

Safety Devices

"There are other features which have come to my attention which show that the manufacturers are thinking along these lines. The increased development of safety devices for pilot burners, the introduction of unit warm air heaters of a pipeless character for auxiliary space heating and the long distance automatic control for water heating, all of which so radically change equipment, that an appeal will be initiated resulting in increased business for all.

"Again, when we stop to consider the tremendous growth of the use of oil and gas in central house heating plants, we realize that these appliances can no longer be used for disposing of household wastes. This immediately opens an important avenue towards the adoption of some gas-fired appliance which will perform this very necessary function in the average household. The gas-fired incinerator, even though it burns only approximately 25,000 cubic feet of gas per season, is an excellent diversity factor and without question will in the aggregate be a very desirable appliance to merchandise.

"What I have said about domestic appliances holds equally true for heavy duty cooking and industrial sales. We must find new methods for utilizing our product if we wish to continually and proportionately increase our sales."

THE COMMERCIAL SECTION'S ACTIVITIES

House heating, refrigeration with gas, sales stimulation, home service, relation with architects and builders, regional sales conferences, are all important activities of the Commercial Section of the American Gas Association. What has been done along these lines, and what is planned for the future, are discussed by Rupert L. Burdick of the American Gas Association, secretary of the Commercial Section, in the following statement:

"Probably the most significant pointer in the development of the commercial side of the gas business is the fact that now almost universally the commercial departments are becoming known and recognized as sales departmnets. Commercial or new business managers are being called sales managers more frequently, and this augurs rapid progress ahead in domestic gas sales.

"In the older day understanding of commercial activities, the attitude, the actions, the entire scheme of this branch of the business was one of passivity—a receptive, but not dynamic, spirit. Today, however, the commercial man has come to realize his full responsibilities and opportunities of generating more business on his own initiative rather than simply awaiting the coming of new business.

Aggression Necessary

"With this realization that we, like the other industries of the country, must from now on put up an aggressive fight for new business, will come much better selling methods and more profitable results. Once a need for such improvement is understood, the methods are quickly sought and adopted. Already—and especially during the past two years—have the commercial executives been eagerly seeking sales aid and knowledge from within and without the gas industry, but the coming year will see even more rapid acquisition of better sales practices in the business.

"The two regional sales conferences already held in 1925 gave definite evidence of this condition. Not only were these attended by large numbers of commercial men and women but also the greatest interest shown was given to those discussions which dealt with the selling and advertising practices of other industries.

"It will probably require another year to complete this movement of learning and applying modern sales methods to the domestic sales of gas. The monthly sales stimulation Service of the Commercial Section will be the clearing house which will disseminate all available information along this line. Its aim will be to co-ordinate the plans and efforts of commercial departments throughout the land so as to lead up to the yet greater step forward—a national advertising campaign for gas—which appears

the inevitable and much-to-be-desired program of commercial expansion.

Work for Next Year

"In order that every gas company may profit to the fullest extent possible when such a campaign is launched, the next year of the Commercial Section's activities will doubtless be devoted to extending, improving and perfecting our knowledge and efforts along already established lines: Home service, architects' and builders' service, refrigeration by gas promotion, house heating promotion and sales research.

R. L. Burdick

"The organization which will stimulate greater activities in these brancehs of commercial work is already formed—the Regional Sales Councils. These are regional or state committees whose function will be to bring about (through local contacts, meetings and investigations) more specific and more successful application of the methods and principles already developed.

"In the early autumn these regional councils, under the guidance of the Managing Committee and Sales Stimulation Committee, will start a series of monthly sales meetings or conferences (either afternoon or evening) in their various regions. Thus will be exchanged information, experiences, facts and plans which will enable the local gas companies to build up their sales and, on the other hand, pass along to the national committees more detailed facts as to the local sales needs.

"The various committees of the section will, of course, work closely with the regional councils and will continue and extend the work they have already started.

Home Service

"The Home Service Committee hopes that next year will see the breaking of even this year's splendid record for the establishment of new home service departments (over fifty have been started this year). A study, now under way, of the value and use of radio broadcasting of home service lectures—and of means for capitalizing these by companies within "listening" distance—will bear fruit in tremendously wider geographical scope and result of this branch of commercial work.

"Because of the untiring efforts of the Architects' and Builders' Service Committee, the gas companies are thoroughly alive to the necessity for close cooperation with architects, speculative builders and individual home owners. Through editorial assistance with the building publications, by means of paid advertising and catalog space in trade publications and otherwise, this committee will (by its work this year) have the ball rolling fast for next year's work.

Refrigeration

"The Committee on Refrigeration by Gas has made a notable achievement this year in the preparation of a thorough, accurate and comprehensive report—in reality a complete textbook—on refrigeration by gas. This report, available at the convention, will be not only a handbook of intense interest to every commercial man who has the "summer load valley" in mind, but will also stimulate active development of more domestic gas refrigerators. The next two years will show a great increase in this relatively new gas usage.

House Heating

"Finally, that division of domestic utilization which holds the stage at every gathering of gas men—House Heating—will start its rapid sweep into widespread reality. The house heating committees of this year and next are concerned with popularizing—with selling—the house-heating-by-gas idea. Necessarily we have to hold back until the manufacturing, the engineering, and the load factors of house heating could be worked out satisfactorily. But the sales end has been studied and facts gathered which will, with the backing and activities of next year's committee, create both the market for house heating and the desire of gas companies to obtain this business."

ENTHUSIASM NECESSARY

An enthusiastic spirit is one of the essentials of success in any undertaking. There is plenty of reason for enthusiasm in the gas business. Of course, such enthusiasm must be tempered with a tone practicality, but it remains a fact that even where there is lack of practicality enthusiasm is welcome. For it is the spirit of life, of youth, of real confidence, of fond hopes and expectations.

Horace H. Clark

Horace H. Clark, industrial engineer of the Peoples Gas Light & Coke Co., Chicago, Ill., calls on gas men to be enthusiastic.

"The future growth of gas companies will be tremendous.

"Gas companies should be doing four times as much business as they are now doing in their present communities. The business is there.

"A general average of all the business being done by gas companies in the United States selling manufactured gas would show that they are now doing about 50 per cent of the domestic business, such as cooking, lighting, water heating, laundry, etc.; less than 1 per cent of the house heating; 70 per cent of the commercial business, such as restaurants, hotels, bakeries, candy shops, garages, newspapers, etc.; and about 10 per cent of the industrial business, such as foundries, steel treaters, auto factories, glass plants, enameling plants, packing houses, etc.

"This is a very encouraging prediction about the future of the gas business. Because much of this is high load-factor business, and as some of it can be obtained with special off-peak rates, it means that we will increase our present sales per customer about four times and only have to double our present investment to do it.

"Gas men, be enthusiastic about your business!"

ELIMINATION OF SMOKE AND CONSERVATION OF FUEL

Elimination of smoke and conservation of fuel are two very important movements today which have a vital bearing on the gas situation. H. B. Holman, manager of industrial sales, the Laclede Gas Light Co., St. Louis, Mo., discusses this interesting phase of gas development in his statement, which follows:

"Public benefits are generally a result of public necessities. Whenever a widespread bad condition exists and there develops a clamor for betterment, a movement is started that results in a changed condition, always expected to be an improvement.

"There are certain national civic movements in progress at the present time which have a direct bearing on the gas industry. In every one of the large cities of the country, the manufacture of raw matrials into finishd products constitutes intense manufacturing activity. In all manufacturing processes heat in some form is used and the most widely used method of heat development is the burning of coal. Burning coal makes smoke—and it is the elimination of smoke that constitutes a nation-wide movement for clarified city atmosphere. The cost of smoke has been estimated into millions by various authors, but one cost beyond computation is the effect on human life, as well as animal and plant life.

Conservation of Fuel

"Another national question is the conservation of fuel in such a manner as to supply its latent energy to the greatest advantage. This question involves the treatment and use of our natural fuel resources as to preclude the wasteful burning of the fuel. The manufacture of gas constitutes a known available method for the utilization of the heat energy in fuel, principally coal.

"These two movements, namely, the elimination of smoke and the conservation of fuel resources, constitute important effects to the gas industry.

"Initially the effect will be to increase gas consumption. An increase in gas consumption will, of course, mean an increase in coal used to produce the gas. The mining of gas coal is conducted along lines of conservation and established operations. The increase in production of these mines will stabilize the mining of these coals, because the gas industry is an all-year industry, not seriously affected by seasons.

"The increase of gas consumption as a result of conservation and smoke elimination can only develop a healthful condition in the gas utility companies. It means your property will increase in value and in earnings.

"I believe the future outlook of the gas industry depends on such developments as I have outlined. We are in practically the same condition as was London when the first gas-making machine was developed, and its inventor stated: 'There, gentlemen, is London, drenched in smoke—here is the remedy —GAS.'"

GUARANTEEING GAS APPLIANCES

Ten years ago it was unheard of to try to sell gas ranges any other time than in the summer. Today gas ranges and gas appliances are sold at all seasons of the year. But even at this time there are still gas companies of smaller size that have a lower gas output in the winter than in the summer.

William Gould, commercial manager, Gas & Electric Improvement Company, Boston, Mass., describes in the statement that follows the general conditions governing gas appliance sales in times past, as well as the nature of commercial business today. The main point that he makes in his argument is the need of the gas company standing behind the appliances that it sells. It is essential that the gas appliances sold by the gas company be of so high a quality that the gas man can recommend them unequivocally and be ready and willing to guarantee their absolutely satisfactory performance. There may be some danger in giving absolute guarantee, but then it is far better to take back an appliance rather than insist on the customer keeping it and thereby creating an unfriendly relationship which is sure to spread to all those who come in contact with the dissatisfied consumer.

Mr. Gould's statement follows:

"In looking back ten years in the gas industry, and particularly regarding the commercial expansion, there are a few things which I desire to call to your attention that have been accomplished, not only in the material side, but in our mental attitude.

"Ten years ago most everybody in our industry believed that there were only a few months in the summer in which gas appliances could be sold to any extent.

"This idea came to us as an inheritance brought by the fact that gas ranges were first urged on customers with the slogan of 'Why Sweat in Your Kitchen in the Summer Time?" or "Have a Cool Kitchen in the Summer Time with a Gas Range.'

"These were perfectly good sales arguments then, even by themselves, but they fail to tell the story at the present time. Gas appliance sales curve of ten years ago had a decided peak in June, sometimes in July and sometimes in May, but it was a very sharp peak with deep valleys all the other months of the year and were brought about by bringing into the customers' minds and our own, that gas ranges were for summer use only.

"The reaction of this thought had its influence on every other gas appliance which still shows very plainly, particularly in the smaller companies, gas output being less in the winter time than in the summer time.

Selling Appliances at All Seasons of Year

"It was considered a crazy idea ten years ago to suggest that appliances could be sold in any other time but the summer months and in the industry throughout the country this was then taken as a condition over which the gas companies had no control and consequently hands were folded as far as efforts to sell any gas appliances in practically eight months of the year.

"At the present time there are too many of the gas companies of our association who, while they will not admit that they think along this line now, are certainly proving that they are letting it guide them as their winter and fall sales results show.

"At the present time does it not seem logical, by results already achieved in a great many of our gas companies, that gas appliances can and should be sold in the twelve months of the year and that there is no special time that is best to sell them with the possible exception of the room heater?

House Heating

"At the present time there is great interest being shown in gas house heating as well as industrial gas. This, of course, is a step in the right direction as it holds the chance for additional expansion in the output of our gas.

"But there is one fact that should not be overlooked, namely, that interest and planning in house heating should not be at the expense of continuing a consistent and persistent effort in selling ranges, water heaters and the present type of radiant-fires and gas-steam radiators.

"To me it is of enough importance to add to the above a word regarding water heaters. We are palpably weak in the results we can show throughout the industry in our water heaters connected to our mains.

"Conservatively, there are ten million meters, and if we wish to stretch our imagination, we may say there are 1,700,000 water heaters connected to these meters.

"Even with our imagination thrown in, this is a most deplorable showing and why, therefore, should we at the expense of increased and renewed atten-

tion to our present unfinished job experiment in new fields?

"Why start one job when we have important jobs still unfinished?

How Well Have We Done in Gas Range Sales?

"I also believe that we are kidding ourselves with the idea that we have done pretty well in our gas range sales. We may have sold many gas ranges in the past ten years, but what about them at the present time? Are these ten-year-old ranges giving the satisfactory service and are they being used as much as they could be if they were the present up-to-date range of heat control and insulated oven construction?

"Many of the ranges sold in the last ten years are low oven ranges, very inefficient to bake in and uncomfortable to use. A cheap range gives cheap results to the customer and to the gas company and the very things that we use to kid ourselves when we sold a low oven range, namely, that they were not so expensive to the customer, and, consequently, easier to sell. These ideas have all been refuted by present-day facts.

"Even the ten-year-ago range of an elevated oven type without the automatic lighter, without the heat control and without the insulated oven, to say nothing of the enameled finish, makes a pretty poor showing with its brother of present modern construction.

The Effect of the War

"The greatest helpful change in the selling of gas appliances has been brought about by the late war, which took men from the factories and whose places were substituted by women.

"This made a shortage in the homes of hired cooks and forced the housewife to do her own cooking. This instantly brought a new interest to the housewife in her kitchen equipment, which is easily proven by the fact that $150 ranges are being bought today and used by the housewife, who would not care to furnish this equipment to a hired maid.

"The greatest advance in the last ten years, to my mind, has been in taking the guesswork out of cooking and baking on the gas range, which principally came about by the heat oven control and strengthened by the insulated oven range.

"One more word regarding the water heaters. It is estimated that there are 7,500,000 ranges connected to the ten million meters in the United States, which is, of course, a considerable better showing than that of water heaters.

"But I am wondering how many of us gas company men would be proud to see some of the ranges included in the above number, some that were not only sold ten years ago, but even twenty and twenty-five years ago.

Water Heater Sales

"Is it not logical to believe and practice that belief, that if we have 7,500,000 ranges connected to our meters, may we not have at least as many water heaters so connected? Why have we not done this? Are there any obstacles in addition to those which we had in the range installations?

"I think not, except in our own minds, and I am, therefore, making the suggestion that we in the gas company sell ourselves the idea, that we should have at least as many water heaters on our mains as we have ranges.

"Looking ahead ten years is a matter of imagination, but unless this is backed up by the changes already accomplished in the last ten years, it will be of little use. I believe one of the best things that can come into the gas industry backed up by the manufacturers and practiced by the gas companies' commercial departments, is a sales proposition that will be put to the customer along the following lines:

A Sales Plan

"Mr. Customer. You need a gas range or an automatic water heater. Your needs regarding this service has been told to us and also what you would feel satisfied to pay for this service per month. This range or water heater that we are recommending you to buy has been tried by us for the last ten years and has been used by thousands and thousands of gas customers throughout the country and has never failed to give the service that you are requiring and has never cost approximately any more than we tell you it will. Therefore, Mr. Customer, if it meets with your approval, we have no desire to sell you something that will not live up to these conditions and we are taking no chance and risking any money, if you will allow us to install this appliance in your house and try it for a period of two or three months, keeping track of the consumption of gas and the service it gives and at the end of that time if you wish it taken out, the gas company will do it at no expense to you.

"This, I believe, is a sane and safe sales proposition that should be at the present time offered to our prospective customers. For, as a matter of fact, it does take away a sales resistance that is brought into the customer's mind of not wanting to be stuck and lose the purchase price. It will add confidence to our customers and our public and be a wonderful chance to improve our public relations.

Cost of Dissatisfied Customer

"I have had the question put up to me as to how we could afford to stand the cost of a dissatisfied customer, particularly where an expensive installation charge had been made.

"I am answering this above question by asking gas company men, what they are already practicing in regard to a dissatisfied customer. We, the gas companies, do not want any one of our customers to retain in their house a gas appliance that is not giving satisfactory service, as it is a bomb that is liable to bring us all kinds of dire results when the

(Continued on page 470)

As The Journal Views It

THE 1925 CONVENTION

The 1925 Convention has passed into history. By the time this editorial is read, a good many of the gas men will have returned to their homes and will be again hard at work at their various tasks. To many, the opportunity to attend the meetings of the Convention has been both a source of pleasure and a means of acquiring valuable information on the progress that is being made in the various branches of the gas industry. The Convention was both a holiday—for it was held in that unsurpassable City-by-the-Sea, famed throughout the world as a resort—and it was also an event imbued with all the characteristics of a real business meeting.

Many complimentary statements might be made about the 1925 Convention. It was in every way a splendid and eminently successful affair. The exhibitions on the Steel Pier were carefully gotten up and the displays were uniformly attractive and instructive. The work done by the American Gas Association in preparing the program is to be highly commended. All the Sections arranged comprehensive discussions on important subjects and problems that are agitating the minds of the gas men today. Many committees made their reports and all indicated progress in the past year and for the future.

The entertainment features were particularly attractive and were thoroughly enjoyed by the gas men that attended. Particular mention should be made of the President's reception on Tuesday evening. On Wednesday evening there was held a very interesting symposium on public relations, which was in the nature of both a business and entertainment feature.

An interesting innovation at this Convention was a special symposium covering the work of the public utility information committees which was held under the auspices of the Publicity and Advertising Section, forming the program of that Section of the Convention.

There was really so much to occupy the gas man at this Convention, so many affairs that he could attend, so many meetings at which he could be present, that the past week has indeed been a very busy one for those who were so fortunate as to attend the annual meeting. It has often been said that conventions have their purpose, not only in serving as a medium through which progress can be reported, but also as providing a means of social intercourse between men and women who are engaged in a common work, who can renew old friendships and make new ones and in general gain much from contact with other members of their fraternity. This function the 1925 Convention performed well indeed.

To all who attended it must have been evident that the keynote of the Convention was that gas has arrived, and has become a real contender in the fuel field. It took the gas man some time to realize that he must acquire industrial business in order that his industry might develop properly and eventually attain its rightful position in the industrial world. Gas is now being used practically everywhere for industrial purposes of one sort or another. The march of progress is well under way and it remains now carefully to formulate plans so that the future development and progress might be uninterrupted. The gas industry must acquire more and more industrial business, for if it does not, that business will shortly go to its principal competitor, which is electricity, and eventually the electrical industry might very well attain such a position that it can become a real contender in the domestic field as well.

The watchword of the day is "FORWARD." The gas industry knows well what it can do if it sets out to do it. It has accomplished the first tasks, it has taken first steps. There is no longer any talk about what it could do. We are all agreed that gas must be the universal fuel of the future. All our efforts should now be concentrated to make the progress of gas sure, even though it be slow, so that when we once attain the goal it will not be a temporary but a permanent victory.

CONVENTION ECHOES

(Continued from page 468)

customer's patience and indignation bursts forth in gossip and in telling her friends.

"I think the practice nowadays by gas companies is to immediately remove an unsatisfactory gas appliance, particularly on a new installation, and not charge the customer anything, no matter what conditions existed, and I believe it is a sane and safe public relations move. So, therefore, why cannot we in the sales departments guarantee that no appliance that the customer buys from us has any chance to prove anything but that of satisfaction to the purchaser, and that if it is not that, the purchaser has no chance of losing any money?

Confidence in Gas Appliances

"If we have not this confidence in our gas appliances, we cannot expect our prospective customers to have it, and if we have not this confidence as to the capacity and ability of our gas appliances to render good service, we ought not to be in the commercial departments of the gas companies. Lack of confidence in the gas companies and, yes, in the manufacturers' commercial departments in their own appliances, is the only thing that is holding back the wonderful sales possible in every gas company in the United States today ad we cannot expect our lack of confidence to breed anything helpful.

"Mr. Customer, knowing your conditions and our appliance through years of experience, we guarantee unconditionally that this appliance will give you satisfactory service.

"In closing I would like to mention the fact that while most of us are practicing these methods in giving satisfactory service to our customers, let's not only make it a service practice, but let's make this service practice a part of our sales arguments in making unconditional guarantees to our prospective customers whereby no doubt or misapprehension is allowed to enter our minds or theirs.

An Afterthought

"One of the greatest sales obstacles in all our minds before purchasing is the wonder and the doubt as to whether we are going to receive enough value to make us satisfied to part with our money.

"Whenever this doubt exists, we do not buy, no matter how much of a mistake we make in finally buying. Consequently, I feel that if we can remove this, one of the biggest sales obstacles, and remove doubt in the minds of our prospective customers as to whether they are going to be stuck or not, why should not we, a public utility established for years in our towns, governed by state utilities commissions, reputable white men concerns, why shouldn't we remove this sales obstacle by guaranteeing that the customer will receive full value for the money expended and if they do not they will not be penalized by losing their money?"

COMMERCIAL MEN IN NEW ENGLAND

The commercial men of New England have an association, the Gas Sales Association of New England, which is unique in the field. John J. Quinn, vice-president, Citizens Gas Light Company of Quincy, Mass., governor of the Gas Sales Association of New England, discusses the aims of his association in the following. He acknowledges the existence of problems which the commercial men and gas men in general are called upon to solve, but "with a strong, well financed industry such as we now have these problems need hold no fear if they are considered frankly and discussed intelligently." Mr. Quinn's statement follows:

"In starting upon its eighth year of active assistance to the gas industry the Gas Sales Association finds itself in the strong position of having an active membership of 175 men, representing the contact departments of gas companies and the representatives of appliance manufacturers.

"It is apparently an unique organization in this field. At the six dinner meetings that are held throughout the fall and winter in Boston nearly 90 per cent of the membership are in regular attendance. At such meetings will be found representatives from all of the New England states, many of whom travel several hundred miles in order to attend the association meetings.

"During the eight years that this organization has advanced from some 24 to the present 175 members, it has seen and taken an active part in the establishment of the better public relations that exist today almost universally throughout the gas and other utility fields.

"Better publicity, not only by means of paid advertising in the newspapers and magazines, but by such work as the state and district public utilities information bureaus have undertaken, as well as the more active contact by gas men through civic associations of various kinds, have been largely the means by which our industry has advanced.

"Consolidations and resulting expansion have paved the way for improvement and development within the utility company organizations. All this has made for a more substantial industry that today offers worth-while opportunity to investor and employee. Coincident with this strengthening has come the ability to better serve the communities in which gas utilities are located.

"There are many problems constantly arising that demand immediate attention and solution. With a strong, well-financed industry, such as we now have, these problems need hold no fear if they are considered frankly and discussed intelligently in such gatherings as this convention and at the meetings of the numerous district associations."

Gas Men and Guests at Monte Carlo

Enjoy great fun on Steel Pier Thursday night

Millions of dollars, billions of dollars in the gas industry, and played with in gay abandon as though there was ever more whence that came. Thus did fair lady and gallant gentlemen while away two exciting hours at "Monte Carlo Night," Thursday, October 15th, on the Steel Pier in the closing event of the American Gas Association Convention at Atlantic City.

Kept a secret till the very last, the gayest event ever partaken in by the A. G. A. was a delightful surprise. Gathering early to miss not a single moment of the gala occasion, the crowd which by ten o'clock was well over the four thousand mark, was loath to give up the special feature of the night for the marvelous dance music which followed.

For two hours, however, a dozen or more games of chance at as many tables scattered throughout the great Convention Hall drew each its individual group. As those who attended the event came in the door he or she received a stack of bills, and from then on the fun was fast and furious.

There were roulette, Klondyke, Big Six, the percentage wheel, faro, chuck-a-luck, three card monte, craps, horse race and others with millions of gas money bet on every throw of the dice, spin of the wheel or turn of the card.

On one of the horse races, a gentleman well known throughout the gas world wagered a single bet of one million dollars on a horse that "is running yet." And he lost it without batting an eyelash. We feel we violate few confidences in revealing Charley Person as the calm loser of this little fortune.

Many marveled at the absence of the police to halt the proceedings, until they were enlightened, and informed of the fact that the police had full cognizance of the gambling, had been "persuaded" to permit it for the evening, and, marvel of marvels, had themselves furnished the apparatus to fashion this rival of Monte Carlo itself, of Deauville, Ostend, and Biarritz.

It came time at last to halt the goings-on, and the floor being somewhat cleared, dancing started; the myriad colored gowns of the ladies mingled in gay twining in and out with the more staid garb of the "fiercer" sex.

During an intermission, Jacob B. Jones, superintendent and treasurer of the Bridgeton (N. J.) Gas Light Company, was announced as winner of the U. G. I. bathing beauty contest and received a handsome silver loving cup.

Later in the evening, half a dozen prizes were "bought" from the committee in charge of the "Monte Carlo Night," going to the highest bidders. By that we mean that the three ladies and three gentlemen who, during the evening's play, had succeeded in gathering together the greatest bank rolls —committee's count—and turned these bank rolls in to the committee, received the prizes awarded.

The names of the lucky ones follow:

Ladies—Mrs. G. Jacobus, first prize, traveling bag; Mrs. Janette M. Small, second prize, hand bag; Marion Lewis, third prize, parasol.

Gentlemen—Louis A. Branca, first prize, military brushes; E. T. Davis, second prize, cigar case; T. R. Clayton, third prize, silk umbrella.

Mr. McDonnell Looks Over the Exhibits

Booth 47, with Mr. A. N. Schenker in attendance, displayed the advantages of the "Shur Stop" gas cock, which is included in the Ujax Brass & Iron Works', New York City, line, emphasizing by ocular demonstration its superiority.

Further down the line, in booth 404, where Mr. D. M. Hamilton presides, the Acme Brass Works of Detroit showed a model of their gas cock testing apparatus.

A new model furnace for demonstrating their clinker-proof furnace walls was the main feature of the exhibit in booth 430 of the Bernitz Furnace Appliance Co. of Boston. Mr. A. E. Smith did the honors.

Many puzzled over how the C. L. Bryant Corporation of Cleveland overcame the mechanical difficulties connected with the chief feature of their display—a gas-heated steam boiler in operation while revolving continuously.

In booths 402-403 the J. H. Grayson Mfg. Co. of Athens, Ohio, displayed a full line of Ray-Glo radiant heaters in New Period models. Mr. K. C. Farnsworth in charge.

In booths 202-203, with Mr. W. L. Smith, the vice-president, in charge, the A-B Stove Company of Battle Creek, Mich., show a line of their "Unified" gas ranges which not only serve for cooking purposes, but heat the premises as well, doing away with the necessity of the combination range. Their booth was originally conceived by Mr. Paul Lupo. The large sunburst, which is the central part of this display, is nine and one-half feet in diameter and is

entirely in bronze. In the center of this sunburst, standing on a concealed pedestal, is the A-B Unified Range. Back of this is a large oval background on which has been arranged in folds a metallic gold cloth. About 100 yards of material have been used in producing this display. Concealed red globes soften the high brilliancy of the gold and sufficiently subdue the setting so that the range stands out very attractively.

On each side of the sunburst hang velvet banners, on which have been embroidered in colors the A-B trade-mark.

The Guardian Gas Appliance Co. of Cleveland, with Mr. Elbert E. Oyster in charge at booth 27, offer this year a small garbage incinerator for household use.

Booths 506-507, with Messrs. P. S. Moore and Walter S. Scott doing the honors, show the piano-wire screen for use with clay and the plate screen for accurate sizing, manufactured by the C. W. Hunt Co., Inc., of New York City.

Mr. Harry Rhinehart represents Johns-Manville, Inc., at booths 316-317, where a very cleverly constructed model shows a house on fire and the sparks failing to ignite the nearby building roofed with a Johns-Manville product.

The Kompak Co. of New Brunswick, N. J., in booth 205, with Mr. W. A. Devine in charge, presents a novel display in the form of a basin with hot and cold running water always on tap, though the basin itself is continuously turning around.

In booth 521 the Niagara Water Heater Co. of Buffalo, N. Y., presided over by Mr. F. E. Birtch, show their line using the indirect system of heating, in which the water in coils never leaves them, thus preventing lime or dirt clogging.

The Pittsburgh Water Heater Co. of Pittsburgh, Pa., in booth 211 show a full line of their product, while Mr. H. G. Mentzer and assistants explain their merchandising plan.

Booth 313 shows the new models and the grill support of the Radiant Heat Corporation of America, of New York, with Mr. Hoyt Kaley in charge.

The Ruud Manufacturing Co. of Pittsburgh, in booths 206-207, with Mr. R. H. Lewis as host, show a very complete line of heaters.

In booth 427 the Safety Gas Main Stopper Co., of Brooklyn, N. Y., has a model of the improved locking-sleeve on its Goodman gas main stopper, which elicits much favorable comment. Mr. James McKee is in charge.

Mr. W. L. Dobson does the honors in booth 212, where the S. B. Sexton Stove & Mfg. Co. of Baltimore line is shown. This line has been reconstructed, eliminating bolts and the design greatly improved.

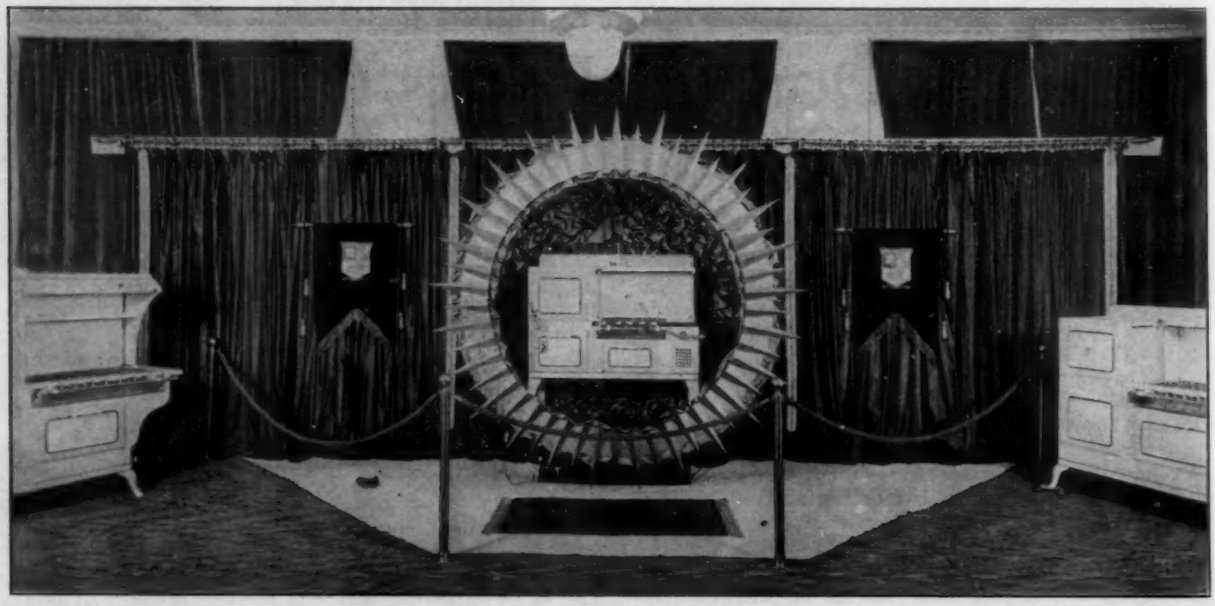
The Sullivan Machinery Co. of Chicago has booths 463-464, with Mr. H. C. Sargent in charge, showing various full-size models of hoists and gas compressors mounted on auto chassis.

Mr. J. K. Luther explains the exhibit of the Time-O-Stat Corporation of Milwaukee, Wis., in booths 406-407. This company manufactures instruments for the distant control of tank heaters.

Titeflex Metal Hose Co. of Newark, N. J., in booth 109, with Mr. E. E. Husted in charge, exhibit a line of all metal flexible gas tubing in a variety of sizes.

"A mile of ranges" would only mildly exaggerate the display of the Standard Gas Equipment Co. of New York in booth 302, Mr. James Sackett in charge.

The U. G. I. Contracting Co.'s miniature model of their dam and plant at Stevenson, Ct., the former 1,200 feet long and 125 high, attracted much atten-



A-B Stove Company Exhibit

tion. Mr. L. L. Moore had charge of their booths 219-220-221.

In booths 3-4 the Welsbach Company of Gloucester, N. J., is represented by Mr. J. J. Bonner, and their line of heaters and mantles was most attractively displayed.

The West Gas Improvement Co. of New York, in booth 216, showed a series of photographs, etc., of various vertical retort plants built by them all over North America and South America. Mr. F. J. Kennedy in charge.

The Western Gas Construction Co. of Fort Wayne, Ind., in booth 319 (Mr. A. E. Robinson) showed a new model automatic remote control valve.

Booths 125-126 hold the display of the Surface Combustion Co. of New York. So perfect is the insulation on their furnaces that where an interior temperature of 1250 degrees F. exists, a bowl of gold fish placed on top will not be affected.

The Hall Mfg. Co. of Toledo, Ohio, in booth 513, Mr. J. H. Smith in charge, show a line of Toledo automatic gas burners.

Booth 451, under Mr. Ira E. Baker, holds the display of the Cleveland Gas Burner & Appliance Co. of Cleveland, Ohio.

Connersville Blower Co., in booths 543-544, has a working model of a high pressure meter with capacity of 125,000 cubic feet per hour. Mr. C. R. Houghton in charge.

The General Gas Light Co. of Kalamazoo, Mich., won much attention by their framed series of paintings illustrative of the uses of Humphrey Radiantfire apparatus. Mr. H. Humphrey presided.

An Attractive Hallowe'en Window Display

Gas in Baking

F. W. Manker discusses furnaces for baking

"Baking is an old process and an important process, and has very wonderful effects on the raw materials furnished for man's use by Mother Nature. In the making of the finished products, however, practically uniformly until this time, heat has always been regarded as a necessary adjunct, and the builders of the furnaces have had their eye, for instance, on the loaf of bread, and not on the quality of the furnace. As a result, the art of efficient furnace building has been rather a neglected one."

E. W. Manker, vice-president, in charge of large furnaces, of the Surface Combustion Co., New York, was discussing the effect of building better furnaces on the design of material and equipment.

The efficient furnace was a new development, he felt, at least comparatively.

"Continuous ovens have very high consumption," he declared, "because builders have not had their eye on efficiency. So that, where efficiency is secondary, the cost of operation has been comparatively high. The same is true of the electrical furnace.

"The two types, gas and electric, are now fighting a battle in which high quality is at last being recognized. The advantage of the gas furnace is going to come to the fore, because quality for quality they can match the electric furnaces, and finally are working with a low cost fuel as compared to a high cost fuel."

WELL INSULATED FURNACE SPELLS SUCCESS FOR GAS

"There is no reason why the same sales methods which are applied to domestic equipment should not be applied to stock equipment," according to C. B. Phillips, vice-president in charge of stock furnaces and appliances of the Surface Combustion Company of New York, declared.

"We are doing this very thing and have already had notable benefits from these sales methods.

"At our booth at the convention, you may have noticed the goldfish bowl on top of a furnace. But you may not have noticed that the temperature inside that furnace was 1200 degrees Fahrenheit.

"Those goldfish swimming around in that bowl are one of the greatest sales arguments we could possibly put forward to convince prospective buyers of our furnace of its insulation qualities. Not all the

statistics we could quote, not all the nice speeches our able salesmen could make, will be quite as convincing as the little fish telling the world that it is comfortable for them where they are."

CO-OPERATION ESSENTIAL TO SUCCESS

E. E. Basquin Talks on Co-operative Efforts

"Mutual co-operation between the manufacturer and the gas company during the past year has brought about striking advances in both the character of equipment and sales of both equipment and gas," according to E. E. Basquin, vice-president and general manager of Surface Combustion Co. of New York.

"This co-operation has not yet been carried very far, but developments are picking up added values every moment, and the gains are daily more noticeable. One of the most notable of the advances has come in the making possible of putting out experts in the various lines who advise with companies of both types, and with users of gas in general, in what direction lies the greatest possibilities for them in the use of gas and the most satisfactory equipment.

"Thus a ceramic expert has spent his entire year in the building of a number of tunnel kilns throughout the country, in some cases working with the gas company in the locality, and in others, without, but in every case, doing work of value both to the gas company and the equipment manufacturer."

Pier Front Displays Attractive

Windows dressed as modern all-gas basements

Two very unusual and attractive window displays flank the main entrance to the exhibit of the American Gas Association on the Steel Pier. Fronting on the Boardwalk, as they do, these two windows attracted the attention of thousands of visitors from all over the country and spread the story of gas, the perfect fuel, in a singularly attractive way.

The two windows were dressed to present modern all-gas basements. The one to the left of the entrance presented a toy room and heater room. The heater room showed a very attractive and efficient-looking gas-boiler while the toy room was a kiddie's heaven with circus, autos, fire engines and dolls in unbelievable profusion. Attention was attracted to the window by the vivid colors used in its decoration. Staring yellow and coral red, brilliant nursery pictures attracted the eye by their very violence, while a cunning dog rolled his head and eyes and opened his mouth to show the pink tip of his tongue. The crowds gathered about the window are a tribute to its drawing power.

Radio Window

The other window, to the right of the pier entrance attracted even greater crowds, due in part to a radio loud speaker installed in the basement living room, which broadcasted the world series score. Next to the living room a gas furnace and a gas hot water heater were placed side by side in an immaculate heater room, such as no coal furnace has ever known. Great hot air conduits led away from the furnace to imaginary registers in the rooms above. Adjoining this room was the laundry, where a gas-operated laundry dryer, gas clothes ironer, and gas clothes-washer stood in shiny, spotless array, completing the exhibit of the perfect all-gas basement.

Cleanliness seemed to be the feature which these two windows emphasized as a characteristic of an all-gas basement. "Gas heaters," the exhibit mutely declared, "are not subject to the soot and grease and other varieties of filth which a fuel other than the perfect fuel, gas, is subject to."

The Thanksgiving Turkey in an Effective Window Display

Get After the Architects

W. A. Adams tells how to increase gas sales

W. A. Adams has been so faithful a visitor at section and general meetings that he is a hard man to catch. The Gas Journal representative ran him down and secured a few remarks from him on a subject very close to his heart.

"How would you proceed to increase the sale of gas, Mr. Adams?"

"Very simple. Merely increase the amount of gas that it is possible to pipe into a home. Too many homes have insufficient piping into and in the home."

"What do you mean?"

"The customer can only use as much gas as the main will bring into the house, and he can only use as many appliances as he has piping facilities for. If the facilities are not there, either the customer will not use the gas or he will be forced to expensive installation to put it in. The expense of installing this piping after the house is built is likely to cause dissatisfaction."

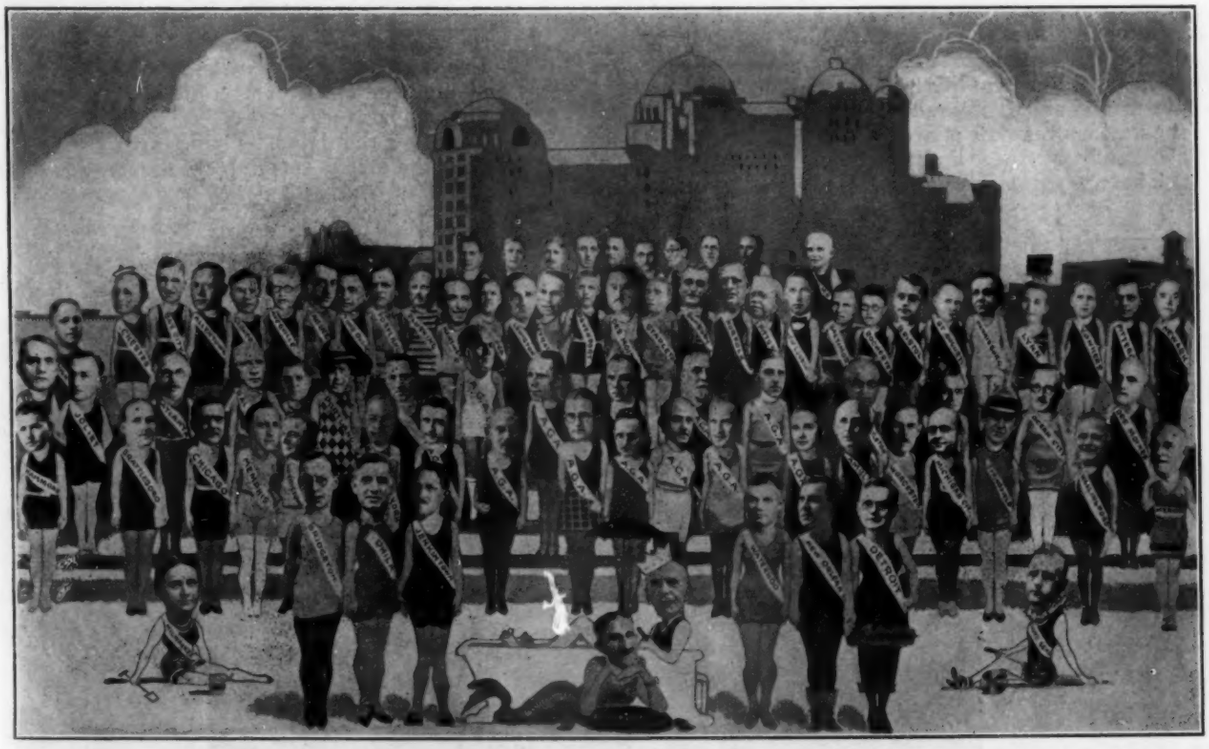
"What remedy do you suggest?"

"Get after the architects. They are easily located and reached. They can draw up the specifications in a way which will make or break our future possibilities for sales. The activities of the committee of which I am chairman has been directed during the past year along two lines: investigation and study of means of reaching architects and builders with the story of gas; and education among gas companies, and, to a certain extent, among architects themselves.

Personal Contact

"We have found that the best way of securing the co-operation of architects and builders is by personal contact. The men selected for this contact work are called upon for a large amount of service work on constructional, engineering, and other technical details of gas equipment and utilization. On account of this, the men chosen by the gas company should be men having a comprehensive knowledge of the gas business, well versed in utilization and having a working acquaintance with building construction problems.

"An architects' and builders' service department is an excellent means of gaining the co-operation of the architects in specifying sufficient gas installation. Contests among architects for all-gas houses, such



The greatest galaxy of "feminine" (?) pulchritude ever gathered together, as entrants in the U. G. I. Contracting Co.'s "American Gas Beauty Contest." The winner, "Jake" Jones, as Miss Bridgeton, is shown to the left of the front row.

as has been conducted by the Peoples Gas Light and Coke Company is another very good means.

"The best means of spreading the sale of gas lies assuredly in providing a proper foundation. The proper means of providing this foundation seems to be through the architects themselves, the men who have the ultimate word in the construction of new dwellings."

SMOOT CONTROL OF VOLUMES SUPPLIED TO WATER GAS SETS

The Smoot control for water gas sets is an accurate system of machine regulation of the quantities of air, steam and oil supplied to the machine.

The Smoot control gives the operator a new means to run his machine efficiently, in addition to the automatic time and heat devices (automatic gas maker) commonly installed in modern plants.

In the Smoot control the rates of flow of air, steam and oil are maintained or varied as set by the operator, independently of each other and independent of the changing or interfering conditions in the machine.

The Smoot control consists of: A, master controller; B, primary air regulator; C, secondary air regulator; D, steam flow regulator; E, oil flow regulator.

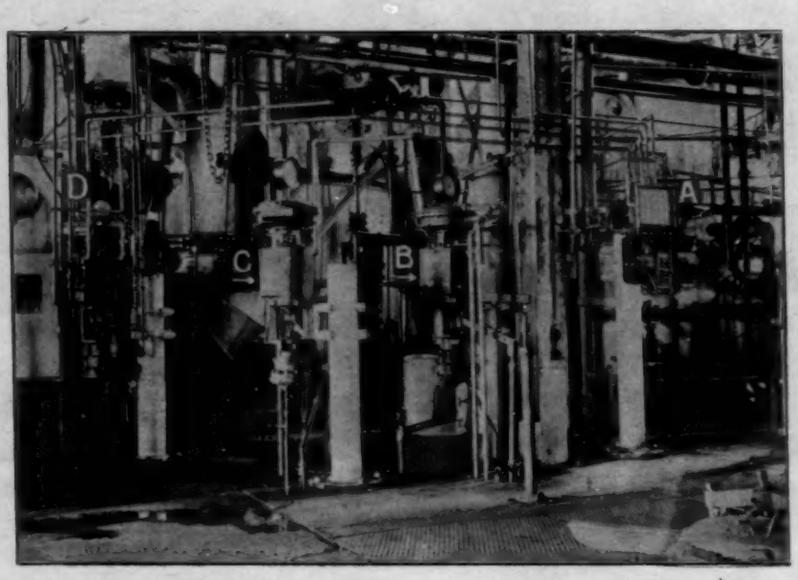
The master controller "A" is a centralized loading device, co-ordinating the operations of the various regulators determining the exact quantities of air, steam and oil to be supplied to the set and the ratios of these functions to each other. The master controller can be set easily by the operator by very simple means and it guarantees that all orders sent to the various regulators are executed immediately and accurately by these individual regulators.

The master controller is, furthermore, provided with special safety diaphragms entering into operation in case of failures of air supply or steam pressure.

The primary air regulator "B" measures during the blow period the air volume entering the generator and holds that quantity constant at the value set by the operator at the master controller "A," by acting upon a damper built in the air supply pipe to generator. The measuring reactions are received from the leads of a venturi meter and the flow is controlled independently of the varying resistances of the fire in the generator.

The secondary air regulator "C" measures during the blow period the air volume entering the carburetor and holds that quantity at the value set by operator at master controller. The rate of flow can be varied to suit any definite time curve to burn completely the carbon monoxide formed in generator into carbon dioxide with minimum excess of air. The regulator operates a damper in the air pipe to carburetor and measures the flow by the differential head across the diaphragm or multiplying Pitot tubes and the time curve can be obtained in adjustable loading apparatus.

The steam flow regulator "D" measures during the make period the steam entering the generator. The master controller is provided with two separate load-



ing lines for up-run and down-run, so that the quantities of steam admitted up or down can be independently set and controlled by operators at the master controller. The regulator operates a control valve built in steam line and measures the flow by head difference across diaphragm plate; the switching of loading pressures for up or down-run is done by a connection to the mechanical gas maker, that controls the reversing valves of set and all other timing devices.

The oil flow regulator "E" measures during the make period the flow of oil entering the carburetor and holds it constant at the value set by the operator at the master controller, to give the desired B.t.u. content of the gas. The regulator acts on a control valve built in the oil line and sets the opening of this valve in such way that the measured flow reaction across diaphragm is correct.

The whole Smoot control system supplements the operation of the automatic gas makers and follows the same time periods without interference.

The advantages of the Smoot control for water gas sets can be summed up as follows:

"Jake" Jones of Burlington, N. J., Winner of the "Bathing Beauty Contest," and His Cup.

1. The operator knows that at all times the exact volumes desired are delivered to the set.
2. The machine regulation eliminates the limitations of the human element and sets a new standard of accuracy.
3. A correct balance between heat input and gas output can be established and maintained indefinitely.
4. The control of fires and of slagging is considerably eased up and test conditions are maintained at all times.

HIGH PRESSURE DISTRIBUTION

(Continued from page 460)

that of bare pipe. Methods for such protection are readily available and the fear formerly held by all, and even now held by many, engineers as to the short life of wrought pipes can now be dismissed and the former prejudice against the use of wrought pipes should be lifted. No matter what the material used the methods employed in the construction of the mains and services should be such as to insure a gas tight at high pressures before such structures are put into service. This should include the subjection of all pipes to a pressure considerably in excess of those to be used in service.

A. P. Cameron Elected Vice-President Westmoreland Coal Company

Mr. A. P. Cameron, who has been general manager of the mines of the Westmoreland Coal Company, with offices at Irwin, Westmoreland county, Pennsylvania, for many years, has been elected vice-president in charge of operations at the regular monthly meeting of the board of directors.

BRING 'EM IN BY 'PHONE

EVERY sales manager has been told how folks have been brought to demonstrations by 'phoning them an invitation the day of the demonstration. Yet it is well worth repeating; 'phone folks on the day of the demonstration; tell them what the menu is to be and tell them to be sure to come. A West Virginia gas company recently sent out over seven hundred printed invitations to a demonstration, and announced it in newspaper advertisements and, furthermore, when the day came for the demonstration a service clerk spent the morning in 'phoning folks, with the result that the demonstration was a huge success.

GAS MERCHANDISING

Domestic – Industrial

Ideas for the Man Who Sells

William H. Matlack

EXPOSITION

EXPOSITION of down payments is one of the best ways to attract attention. One company that we know of always uses a display card with only the initial payment featured. The sales manager of this company says: "If I can attract folks with a payment feature, I know our floor salesman will be able to interest them in the appliance and secure a purchase contract. The big thing in

our store is to interest folks. You see there are hundreds of people in here every day for one purpose or another and it would not be practical to have a half dozen extra salesmen on the floor trying to interest every one that comes in. That would make our store unpopular, too, so we use these cards and we have made many, many sales in this manner. In numerous instances customers will stop and look at the appliance and then call a salesman over to explain its service features and the terms of payment."

TO SWEETEN 'EM, TEACH 'EM

BECAUSE an employee is caught young is no reason why he should be treated rough. "To sweeten the employee" the knowing ones are teaching him. Very few people can be provided with a note book and a lead pencil and procure a college education.

EXTENDING A HEARTY WELCOME

THE Westchester Lighting Company extends a friendly hand to newcomers into their territory by sending each new resident the card reproduced below:

> Isn't it wonderful how a small card and a welcome help out when you move into a new town and a new home and find that all the window shades are too small and that the oven of the gas range is on the wrong side and that the Mrs. forgot to get bread for supper?

We bid you welcome as a resident of Westchester County and customer of our Company.

Your experience with both, we are confident, you will find pleasurable and beneficial.

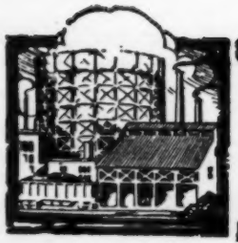
Our purpose is to administer to your convenience and comfort by means of our products and our appliances.

Your personal call, postal card, or telephone message, will always be given our prompt and courteous attention.

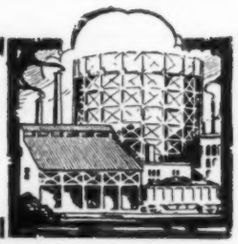
Don't hesitate to command us; we are

ALWAYS AT YOUR SERVICE

WESTCHESTER LIGHTING COMPANY



NEWS OF THE GAS INDUSTRY



New York's Gas Men Meet at Placid

(By Special Correspondent)

The necessity of good public relations was the keynote of the 21st Annual Convention of the Empire State Gas & Electric Association, held at the Lake Placid Club on the 1st and 2nd of October.

Glorious fall weather and a registration of more than 300 delegates and guests went far to mak this meeting the most successful of recent years. Golf, as usual, was the predominant outdoor topic, and the three links of the club were crowded throughout the week. The men's tournament was hotly contested and was won by Mr. H. M. Sliter of Elmira, who turned in low gross, and by Mr. G. B. Tucker of Rome, who had the low net. The ladies' tournament was won by Mrs. J. P. Haftenkamp of the Rochester Gas & Electric Corporation.

Following the address of the association's president, Mr. M. S. Sloan (Brooklyn Edison Company, Inc.), who outlined the progress made by the gas and electric industry during the year, the report of the Gas Section was presented by Mr. C. C. Atwood (Brooklyn Union Gas Company).

This showed a very successful year, and laid special emphasis upon the Section's annual meeting held at Utica last spring. A very complete and interesting program is being arranged for the next session this winter.

Employee Education

Of great interest was the report of the Committee on Educational Activities, of which Mr. H. O. Palmer (Empire Gas & Electric Company) is chairman, and Mr. H. W. Bell (Empire State Gas & Electric Association) is field secretary.

"Given the right mental attitude," says this report, "all employees can and will do much in their business contacts with the public and among their friends and acquaintances in correcting misinformation and wrong ideas and in promoting a friendly attitude towards the company. The creation of the right mental attitude throughout the company's personnel is the first step in the never-ending process of improving public relations, and should be the primary purpose of all educational activities."

Basing its beliefs upon this theory, the committee in its report has outlined a plan for practical employee education in the more vital problems of present-day utility operation. The complete report will shortly be printed and available at the association's headquarters for general distribution.

Women's Section

The report of the Women's Section of the association was presented by Miss Mary E. Dillon (Brooklyn Borough Gas Company), its chairman. This section is in close contact with the Educational Committee and recommends that intensive educational work among the women employees be continued along these lines.

Miss Dillon described the recent Exhibit of the Women's Section at the Arts and Industries Exposition held at the Hotel Commodore in New York last month. Seventy-five hundred pieces of good-will advertising were distributed during the week. There were thousands of grown-up visitors, and many classes of school children were brought to the booth to have the model of the water gas set explained to them.

"All of the gas companies in the metropolitan district," said Miss Dillon, "now have classes in home economics and many other gas and electric companies throughout the state are providing this service. This work is educational from the standpoint of the proper utilization of our product and the care of appliances. It will pay for itself to a great extent by reducing the number of service calls and in increased goodwill."

Public Utility Securities

This topic was the subject of a very interesting address by Mr. Ellery S. James of Brown Bros. & Company, investment bankers, of New York.

"Holding companies especially," said Mr. James, "are in need of good public relations, built up through a program of frank information. The very fact that these corporations are 'holding companies' lends itself very often to stock manipulation and speculation, with the consequent misunderstanding on the part of the general public. This can only be overcome by the dissemination of full information about the capital structure of the company and as to the equities of the various securities of the subsidiaries under its control."

Mr. James then enumerated the various states which had enacted laws making the bonds of utilities companies legal investments for savings banks and laid emphasis upon the desirability of such laws throughout the country.

Election of Officers

The Nominating Committee, composed of Mr. W. R. Huntley (Buffalo General Electric Company), Mr. C. E. Paige (Brooklyn Union Gas Company) and Mr. H. O. Palmer (Empire Gas & Electric Company) brought in the following nominations, which, being duly seconded, were unanimously elected for the coming year:

For president—E. C. Scobell, general auditor, Rochester Gas & Electric Corporation.

For first vice-president—H. M. Brundage, vice-president, The Consolidated Gas Company.

For second vice-president—H. O. Palmer, vice-president, Empire Gas & Electric Company.

For treasurer—W. J. Welsh, president, New York & Richmond Gas Company.

For members of the Executive Committee, class of 1928:

M. S. Sloan, president, Brooklyn Edison Company, Inc.

E. H. Rosenquest, president, Bronx Gas & Electric Company.

J. C. DeLong, president, The Syracuse Lighting Company, Inc.

H. E. McGowan, secretary, Brooklyn Union Gas Company.

Cheyenne, Wyoming, Grants Gas Franchise

The city council of Cheyenne, Wyoming, has granted the Cheyenne Light, Fuel and Power Company a twenty-five-year franchise to supply the city with natural gas from the Wellington and Fort Collins fields. To fulfill the contract a gas pipe line must be constructed within a year, the line capable of carrying as much as 150,000 cubic feet of gas daily, or such proportion of that amount available. Cheyenne is at present using artificial gas from the company.

Gas Company Declared a Public Utility

The Gallatin Natural Gas Company does not cater to the retail consumer, but delivers natural gas from Wyoming into Montana, selling it at wholesale to the Billings Gas Company, a Montana corporation. The Gallatin company is a subsidiary of the Ohio Oil Company and was incorporated under the laws of Delaware, but the Montana railroad commissioners have ruled that the Gallatin is a public utility and subject to the rules and regulations as prescribed for such concerns.

Capacity of Laclede Gas Plant to Be Increased by Jan. 1

The gas output capacity of the coke station of the Laclede Gas Light Co. at 526 Catalan Street will be increased from 6,000,000 to 11,000,000 cubic feet daily by Jan. 1, when five gas producer machines now in process of completion will be finished. Two of the machines will be completed Nov. 1 and the remainder before the first of next year.

In addition to this, the water gas plant at Main and Mullanphy Streets will have its capacity increased from 8,000,000 cubic feet daily, its present capacity, to about 9,500,000.

These extensive changes were made necessary by the increasing use of gas for industrial purposes and the opening of new subdivisions in the south and west.

American Schaeffer & Budenberg Corp. Have New Downtown Office in Boston

The American Schaeffer & Budenberg Corp., Brooklyn, N. Y., announce that their New England sales office in "downtown" Boston, Mass., is now located in the Chamber of Commerce Building, 80 Federal Street. Mr. U. H. Nickerson will be in charge as heretofore. They also announce that their Boston plant is being transferred to Worcester, Mass., where improved facilities can be had, and all deliveries throughout New England will be made from Worcester.

Meriden Gas Co. Head Resigns as President

Meriden, Conn.—Another step in the transfer of the Meriden Gas and Electric Companies to interests connected with the Connecticut Light and Power Company was taken recently when Charles F. Linsley, president of the Meriden Companies, retired. He is also secretary and general manager of the Bradley Hubbard Manufacturing Company.

The board of directors of the Meriden Companies also retired, and the following were elected to the board of the combined companies: William H. Putnam, president; C. A. Learned, general manager; W. D. Holman, secretary-treasurer; J. H. Hinsdale and F. E. Bosson.

Clark R. Graves Appointed District Manager Lansing Gas Co.

Lansing, Mich. — Clark R. Graves, well known business man of Lansing for many years, has been selected by the Consumers Power Company as district manager for the Lansing Fuel and Gas Company.

By accepting the offer Mr. Graves returns to his old work. He came to Lansing in 1911 and for nine years was general manager of the local gas company. Prior to that time he had been manager of the commercial department of the Atlantic City Gas Company. In 1920 he resigned his place here to engage in the automobile business. Later he directed the state fuel administration for nine months for the Michigan Public Utilities Commission, and after that organized the Miami Coal Sales Company of this city, of which he is president.

As district manager, Mr. Graves will have the general management of the Lansing Gas Company and all suburban territory, succeeding Chester Gray, who will leave Oct. 1 to assume management of the Atlantic City Gas Company. That company is owned by the Geist interests, while the Lansing plant was purchased from the Geist Company some time ago by the Consumers Power Company.

Utica Gas Rates Approved

Albany.—The Public Service Commission has approved rates of the Utica Gas & Electric Company for gas service—Schedule PSC No. 1, applicable in Utica and Herkimer districts, revised by schedule effective September 1, 1925, to provide rates and charges in new territory distinguished as Clinton district. The standard light and fuel rate is the same as that applicable to the Herkimer district except the minimum charge per month is $1 instead of 50 cents. The industrial rate and house heating rates are the same as applicable to the Herkimer district.

The schedule is further revised by schedule filed September 4, 1925, establishing industrial rates in the Utica and Herkimer districts to customers having a guaranteed use of 130,000 cubic feet per month.

Rates Per Month

First 100 cu. ft., Utica, $1; Herkimer, $1.50. Next 4,900, Utica, $1.02 per M cu. ft.; Herkimer, $1.02. Next 15,000, Utica, 92c; Herkimer, 92c. Next 80,000, Utica, 82c; Herkimer, 82c. Next 400,000, Utica, 77c; Herkimer, 77c. Next 500,000, Utica, 72c; Herkimer, 72c. Over 1,000,000, Utica, 67c; Herkimer, 67c. Minimum bill per month, Utica, $123; Herkimer, $124.40. Discount of 2c per M cu. ft. if bill is paid within 10 days from date thereof.

The Gas-Leak Finder

The Alpha-Lux Co., 192 Front Street, New York, recently issued a leaflet describing a unique gas-leak finder called the "Gasoscope."

The Gasoscope or gas finder is a simple device to locate a gas leak by indicating the presence of gas in air.

The principal features of its mechanism are a cell, closed at the bottom with a porous plate to permit the diffusion of the gas into the cell. The gas from the suspected air on entering this cell will create a pressure in proportion to the percentage of gas in the air. The pressure thus created acts upon a metal diaphragm similar to that in the Aneroid-Barometer.

The expansion of the diaphragm due to this presence is recorded or rather indicated on a graduated dial or face by a hand moving to the left as the pressure in the cell increases. The cell has, at the center of the porous disk, a conical valve to permit communication of the interior of the cell with the atmosphere.

The instrument can be operated by any workman. In operating the device, one first closes the valve at the bottom by turning the lower section of the tube (this valve should always be kept open when the instrument is not in use). The hand is next set to "0" by moving the dial.

The apparatus is then brought in communication with the suspected air and if it contains any gas at all the hand will move to the left.

Therefore, to find a leak the instrument is passed along the suspected pipe or appliance until a maximum of deflection is reached indicating the point of escape.

To locate a main leak, of course, some boring or drilling will have to be done, but by the use of this indicator, in a great many cases, the direction from which the gas flows to the point where it is noticed, can be located much quicker and easier than by observing the odor alone since it gives an indication of the volume or percentage of gas in the air.

The tests are instantaneous and nothing is gained by prolonged exposure. If kept in contact with gas for a long time the hand will gradually go back to "o" as the air in the cell becomes more satisfied with a consequent diminishing of pressure. If the instrument thus charged with gas is brought into pure air the hand will travel in the opposite direction due to the vacuum formed by the diffusion of the gas in the cell to the atmosphere.

It is therefore necessary to open the valve at the bottom, in a gas free atmosphere, after each test to remove the air gas mixture and replace it with air free from gas.

This instrument should be particularly adapted to find natural gas leaks and to detect the presence of this usually odorless gas.

Gas Man to Help Chamber of Commerce

O. A. Weller, budget director of the Public Service Company of Colorado, has been named a member of the statistical department of the Denver Chamber of Commerce by President Bannister. The numerous calls for information pertaining to the gas and electrical situation necessitates having a man who is conversant with the facts.

Insull Acquires Utilities

Chicago.—Samuel Insull has formed the New England Public Service Company to control public utilities, his brother, Martin J. Insull, has announced. The new corporation will control the Central Maine Power Company, the Manchester Traction, Light & Power Company, and the National Light, Heat & Power Company.

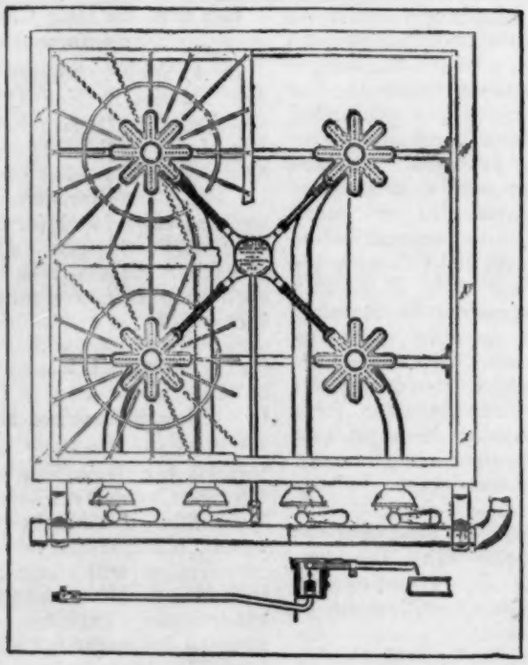
Through the last named company, the new concern will control the Twin State Gas & Electric Company, the Berwick and Salmon Falls Electric Company, the Vermont Hydro-Electric Corporation, Inc., the Rutland Railway Light & Power Company, and the Pittsford Power Company. These concerns serve 286 communities in Maine, New Hampshire, Vermont and New York.

Contracts Awarded

The Montreal Light, Heat and Power, Consolidated, of Montreal, Canada, have decided to make additions to their present water gas capacity and have awarded the contract to the Western Gas Construction Company, Fort Wayne, Indiana, for a 12 ft. water gas machine equipped with "Western" automatic control and safety block, water tube waste heat boiler and other accessories.

Materials for the additional purification equipment for the Richmond Light, Heat and Power Company, Richmond, Indiana, are now going forward and erection of this apparatus will start at an early date.

This contract is being executed by the Western Gas Construction Company, Fort Wayne, Indiana.

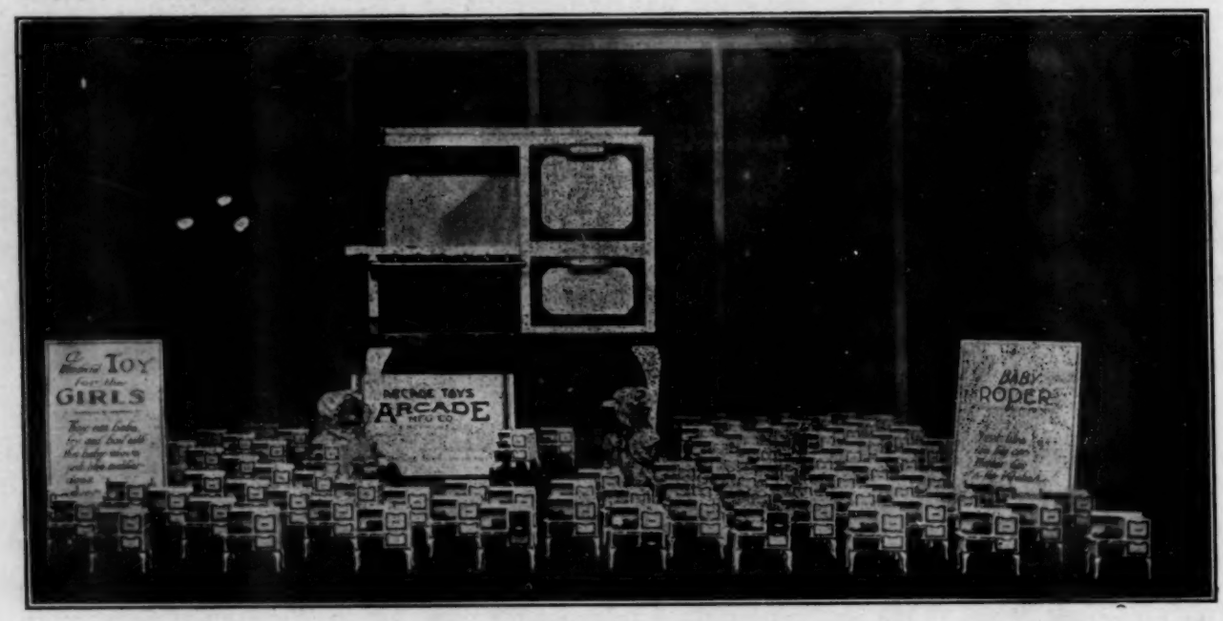


The Dester Safety Igniter

The U. S. Tool Company, Inc., Ampere, N. J., announce the "Dester Safety Igniter" for gas ranges. In their description of their device they state:

"The Dester Safety Igniter has several distinctive features which set it apart from other igniters. There are no moving parts. Turning the gas cock, intentionally or otherwise, the burner is immediately lighted. Should pots or pans boil over or wind blow out the flame the automatic operation of the igniter relights the burner, thus avoiding any possibility of escaping gas. The pilot will stay lighted and is ingeniously protected against draughts. Not only four burner stoves but five and six burners with simmerer can be lighted from one pilot."

Descriptive circular will be mailed on request.

Baby Roper Toy Range

The Geo. D. Roper Corp., Rockford, Ill., recently announced the Baby Roper Toy Range. The demand for this little toy range has been very large. The Roper Corp. state that their gas company customers are taking large numbers of them, realizing the better advertising they get on the large range by using the toy range. Many companies use them to make attractive show windows, as evidenced by the photographic reproduction of a show window of the Freeport Gas Company, Freeport, Ill.